

CLAIMS

What is claimed is:

1. A control system for a cooling unit comprising:
a temperature sensor adapted to sense a temperature within the cooling unit; and
a circuit in communication with a signal from the cooling unit that indicates when cooling of the cooling unit is appropriate and in communication with the sensor, the circuit adapted to turn off a heat source of the cooling unit if the temperature does not decrease within a pre-selected time and cooling is appropriate.
2. The system according to Claim 1, wherein the circuit is further adapted to turn off the heat source only if the temperature is above a pre-selected temperature.
3. The system according to Claim 1, wherein the circuit is further adapted to turn on the heat source a pre-selected time after turning off the heat source.
4. The system according to Claim 3, further comprising the circuit including a memory to store an indication of whether the circuit has turned off the heat source.

5. The system according to Claim 4, further comprising the circuit in communication with a reset signal and further adapted to clear the indication if the circuit receives the reset signal and the temperature begins decreasing.

6. The system according to Claim 4, wherein the circuit is further adapted to lock out the heat source if the indication indicates that the circuit has turned off the heat source and the temperature does not decrease when cooling is appropriate.

7. The system according to Claim 6, further comprising the circuit in communication with a hardware reset and further adapted to clear the lock out only if the circuit receives the hardware reset.

8. A cooling unit comprising:

- an interior volume;
- a cooling system to cool the interior volume;
- a heat source to provide the energy to drive the cooling system;
- a temperature sensor adapted to sense a temperature within the interior volume; and

a circuit in communication with the sensor and adapted to sense when cooling of the interior volume is appropriate and to turn off the heat source if the temperature does not decrease within a pre-selected time and cooling is appropriate.

9. The unit according to Claim 8, wherein the circuit is further adapted to turn off the heat source only if the temperature is above a pre-selected temperature.

10. The unit according to Claim 8, wherein the circuit is further adapted to turn on the heat source a pre-selected time after turning off the heat source.

11. The unit according to Claim 10, further comprising the circuit including a memory to store an indication of whether the circuit has turned off the heat source.

12. The unit according to Claim 11, further comprising a reset switch in communication with the circuit, the circuit further adapted to clear the indication if the reset switch closes and the temperature begins decreasing.

13. The unit according to Claim 11, wherein the circuit is further adapted to lock out the heat source if the indication indicates that the circuit has turned off the heat source and the temperature does not decrease when cooling is appropriate.

14. The unit according to Claim 13, further comprising a hardware reset in communication with the circuit, the circuit further adapted to clear the lock out only if the circuit receives the hardware reset.

15. The unit according to Claim 8, wherein the interior volume further comprising two sections, the cooling system further comprising two evaporators in series, each evaporator to cool one of the interior sections, the cooling fin to be cooled by the evaporator downstream of the other evaporator.

16. The unit according to Claim 8, wherein the unit is a refrigerator.

17. A method of controlling a cooling unit, comprising:
sensing a temperature of a cooling surface of the cooling unit;
determining when cooling of the cooling unit is appropriate; and
if the temperature does not decrease within a pre-selected time
when cooling is appropriate, then turning off a heat source of the cooling unit.

18. The method according to Claim 17, wherein the turning off the heat
source only occurs if the temperature is above a pre-selected temperature.

19. The method according to Claim 17, further comprising turning on
the heat source a pre-selected time after turning off the heat source.

20. The method according to Claim 19, further comprising storing an
indication of whether the circuit has turned off the heat source.

21. The method according to Claim 20. further comprising monitoring a
reset signal and clearing the indication if the reset signal is received.

22. The method according to Claim 20 further comprising locking out
the heat source if the indication indicates that the circuit has turned off the heat
source and the temperature does not decrease when cooling is appropriate.

23. The method according to Claim 22, further comprising monitoring a hardware reset and clearing the lock out only if the hardware reset is received.

24. The unit according to Claim 8, wherein the control unit is an absorption refrigerator.